



Fire Investigations Unit

Office of the Fire Marshal
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Washington, D.C. 20001
202-727-1600



Fire/Explosion Investigative Report

3030 Chain Bridge Rd. NW

F090100051 – July 29, 2009

DATE OF REPORT:

August 5, 2009

INCIDENT NUMBER:

F090100051

AUTHOR OF REPORT:

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PARTICIPATING INVESTIGATORS:

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ESTIMATED VALUE OF LOSS:

\$15,000,000.00

DESCRIPTION OF ACTIVITY:**Fire Scene Examination****SYNOPSIS:**

On Wednesday, July 29, 2009, at 8:17 PM, the District of Columbia's Office of Unified Communications (DC OUC) received an emergency 911 call stating that there was a house on fire at 3022 Chain Bridge Rd. NW. DC OUC then dispatched a "Box Alarm"¹ for a house fire at the same location. A subsequent 911 call gave the corrected address of 3030 Chain Bridge Rd. NW and reported that there was a "major fire." First arriving Engine Company 20 reported that they were on the scene on Sides "A"² and "B"³, with a three story, ordinary construction [house] with "smoke"⁴ showing⁵ Side A." A short time later, units reported heavy smoke and fire in the first floor interior South/East quadrant of the house. After initial units made an aggressive interior attack, companies experienced water supply issues and the Incident Commander ordered the evacuation of the structure and exterior operations for all units. Investigators arrived early in the incident and observed fire on the East porch extending to the South/East corner of the porch and house. Investigators also observed the lack of smoke and fire in the North/West section of the house, as well as the upper floors. The fire then spread throughout the remainder of the structure and caused a partial collapse of the upper floors onto the first floor (with the basement remaining intact). Units then worked for approximately two days to fully extinguish the fire and ensure that there were no remaining "hot spots"⁶. The Fire Investigations Unit along with the Metropolitan Police Department maintained custody of the scene throughout the duration of the incident and investigation. Investigators remained on the scene for twelve days to perform a thorough scene examination, at which time the property was released to the responsible party from the insurance company.

FIRE SCENE EXAMINATION:

A systematic fire scene investigation⁷ was initiated and began with an exterior examination of the house. The structure was a three story single family house, made of wood frame construction, consisting of approximately 15,000 square feet of livable interior space. The front entrance of the house faced North towards a driveway that was accessed off of the 3000 block of Chain Bridge Rd. NW. The house sat on a large plot of property which also contained; a tennis court, swimming pool, bath area, tree house, and other outside game activities.

There were numerous sculptures and art work located throughout the perimeter of the house. Many of these items were damaged due fire suppression activities and fire debris.

¹ The response level for a report of a fire in a structure. This alarm consisted of; Engine Companies 20, 29, 28, 5, and 21, Truck Companies 12 and 2, Battalion Fire Chiefs 5 and 4, and Rescue Squad 2.

² The North side of the house, front.

³ The East side of the house.

⁴ The airborne solid and liquid particulates evolved when a material undergoes pyrolysis or combustion, together with the quantity of air that is entrained or otherwise mixed into the mass.

⁵ The description of an arriving unit when they can actually see smoke coming from the structure.

⁶ Areas of hidden or smoldering fire.

⁷ Utilizing the Scientific Method and guided by NFPA 921 ;

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The exterior of the house displayed significant fire damage throughout, with the heaviest concentration of damage visible on the East and South sides. There was a partial collapse of portions of the upper floors onto the first floor. The North exterior wall of the house remained relatively intact, but displayed significant fire damage.

The South portion of the house consisted of an open air porch that was constructed of composite decking, copper overhead roof, and wood columns, with steps around the entire perimeter of the porch. This porch was interconnected with side porches of identical construction located towards the rear portions of the East and West sides of the house. The only difference between the porches was that the side porches contained a composite railing along the exterior side, with no steps to the exterior.

The wood columns were spaced at equal intervals around the perimeter of the entire porch. Along the ceiling of the porch were light fixtures and fans that were laid out in a fashion that was symmetrically alternating (with fans and lights alternating in appearance). Also located on the porch were several items of wooden outdoor patio furniture, which were all completely consumed during the fire.

There were outdoor flower pots centered between each column, sitting on the deck's surface. These flower pots had plastic bases with soil and plant infrastructure, which all displayed significant fire damage. The plastic bases were all melted and distorted, with protected areas beneath them displaying no damage. The soil and plant infrastructure displayed moderate charring and discoloration, but remained relatively intact.

The entire porch area displayed significant fire damage with heavy charring and discoloration throughout the entire area, with several of the columns being completely burned through. The heaviest charring and discoloration was visible to the portions of the porch located on the East side and South/East corner of the house.

The porch lighting consisted of individual fixtures containing bulb housings and a decorative metal trim ring that sat above the bulbs. All of these fixtures were almost completely consumed by the fire, with only the metal trim ring remaining. The East portion of the porch displayed a circular indentation in the flooring which was consistent with the pattern and size of the metal trim ring for the lighting. This indentation was likely the result of the failure of the structural supports for the light fixture, which caused the metal trim ring to fall from the ceiling and land on the porch (which was heated and pliable, due to direct flame⁸ impingement⁹), causing the damage. There was also a metal electrical box located in the center of the debris on the East porch that displayed heavy oxidation and discoloration throughout the interior and exterior. This box was identified as the junction box for the exterior porch light located in the center of the East porch. Both the box and wiring in the same area displayed damage due to exterior heating only, with no evidence of internal failure.

⁸ A body or stream of gaseous material involved in the combustion process and emitting radiant energy at specific wavelength bands determined by the chemistry of the fuel.

⁹ To encroach, infringe

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The East porch area itself (area of origin¹⁰) displayed the most significant damage of the entire porch area. The East porch was approximately 13'6" x 7' and consisted of; an open area for access to the main porch on the South side, a column – railing – and set of two columns on the East side, an outward swinging door from the pantry hallway/kitchen area of the house along the North wall, and a set of double French doors with large glass sections along the West wall.

The columns on the East porch were laid out in the following manner: the South/East corner consisted of three columns and the North/East corner consisted of a full column, a half column, and the exterior South wall. These columns were approximately nine feet in height, set on a soap stone base and aluminum plinth¹¹, and had a hollow center core.

The full column in the North/East corner displayed the most significant damage to the base of the column, with heavy charring circumferential from floor to ceiling and portions of the column being completely burned away. All other columns in this area displayed charring from the center section towards the ceiling, with no significant damage towards the base of the column. These other columns displayed wider char areas towards the top of the column, with the area of damage decreasing towards the middle section.

Located in the North/East corner of the porch was a distinct abnormally shaped protected area. This protected area extended from the base of the North/East full column in the corner approximately one foot out towards the center of the porch. The majority of this protected area displayed undamaged sections of painted porch flooring with slightly distorted/discolored areas along its edges. There was no discernable debris identified in the area immediately above or around the protected area.

The railing was completely consumed by fire, with no remnants discovered. The doors on the West wall of the porch were also completely consumed by fire with only globules of melted glass found at the base of the door frame. The exterior door on the North side of the porch was also completely consumed by fire, with only decorative kick-plate remaining.

There was a charcoal barbeque grill located on the ground next to the East porch. This grill was a Weber brand, stand-up charcoal grill, black in color. The grill contained previously used charcoal and displayed no damage to the exterior. From multiple vantage points, this grill appeared to be leaning onto the side of the East porch, immediately under the railing. Upon investigation, there was approximately a three inch gap between the grill and porch, with no evidence of fire communication between the two.

The remaining structure of the house displayed multiple windows and doorways, most of which displayed heavy smoke discoloration and charring around the upper portions of these openings. There were six exterior entrances into the house, all of which were secured prior to the incident and breached during fire extinguishment operations.

¹⁰ The room or area where the fire began

¹¹ Per the architecture plans

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The trash cans for the house were located in a small outdoor enclosure near Chain Bridge Rd. These trash cans were examined and gloves and paper towels that were reported to contain linseed oil residue were recovered and taken as evidence.

The systematic fire scene investigation continued in the interior by starting with the least amount of damage due to heat, smoke, and fire to the most amount of damage. The basement of the house remained intact and displayed no fire damage. The basement contained several finished rooms as well as the mechanical room for the house. This mechanical room contained multiple appliances, including: several furnaces, hot water heaters, an array of duct work and piping, and the main electrical breaker boxes for the house. The mechanical room and its contents displayed no fire damage. The basement's electrical breaker box was examined by an Electrical Engineer and showed no signs of internal failure or malfunction.

The first floor consisted of: a living room, library, great hall, kitchen in the North/East corner of the house, and a dining room in the South/East corner of the house. The West half of the first floor was obstructed by debris from the upper floors and an interior examination of these areas was not possible¹².

The kitchen remained relatively intact and displayed heavy smoke damage throughout from floor to ceiling. The trash compactor was examined and paper towels that were reported to contain linseed oil were recovered and taken as evidence. The ceiling above the South wall and the South wall itself (behind the cabinets) displayed heavy charring and discoloration.

There was a utility room in the first floor hallway (near the basement stairs) that contained two electrical breaker boxes for the first floor. These boxes displayed numerous breakers in the "tripped" and "off" positions¹³ with no evidence of internal failure or malfunction. The room itself displayed moderate smoke staining throughout, with the top of the wooden door displaying moderate charring and discoloration on both the interior and exterior sides.

There was a small hallway that accessed a "pantry" and "mud room" immediately prior to the exterior doorway to the East porch. The South wall of the mud room sat opposite the exterior East porch, and displayed heavy charring to the structural members of the South wall. These rooms both displayed heavy fire damage throughout, with the wooden structural items displaying heavy charring and heavy damage to the items contained in the rooms. There were several bottles, cans, and aerosol containers containing cleaning supplies found in the pantry. All of these items displayed damage to the exterior with no sign of internal damage, and many of the products could not be positively identified.

The dining room displayed heavy fire damage throughout, with all interior finishes and contents displaying heavy charring and discoloration. There was an abundance of electrical wiring that ran in the North wall of the dining room (behind the kitchen and hallway). This wiring displayed sporadic damage to several sections with deformities

¹² While an interior exam was not possible, a fire originating in this area was ruled out due to: fire damage observed on the East side of the house, witness statements with no fire observed in this area, and observations by investigators in the infancy of the incident.

¹³ See attached diagram of breaker boxes.

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present. All of this wiring was examined by an Electrical Engineer and it was determined that there was no internal failure or malfunction. There were several custom electrical outlets located in the dining room walls and throughout the house. These outlets were recessed, contained one plug, and were approximately four feet from the floor. It was determined that these outlets were for previous art lighting, and were no longer in use.

In the North wall of the dining room, as well as throughout the house, were void spaces that ran parallel with the installed duct work, chimney, and throughout other areas of the walls. These void spaces were open air return vents that ran throughout the house. These vents were located in transoms above many of the interior doors as well as in the base of the walls. These void spaces had no fire-stops and no other means to prevent fire spread.

The furnishings and contents of the upper floors were found on top of the debris pile located on the first floor. None of these items displayed any significant fire damage and it was therefore determined that the fire originated below these floors, and due to fire extension these floors collapsed and caused further damage. This was confirmed by interviews of witnesses who observed the fire in the initial stages.

Elimination of Potential Ignition Sources

Electrical System: The electrical system and associated wiring in the house was examined by the investigative team as well as an Electrical Engineer from the Bureau of Alcohol, Tobacco, Firearms, and Explosives. All these components displayed damage due to exterior heating and displayed no evidence of internal failure, heating, or malfunction. (see attached Electrical Engineer's report)

Mechanical System: The HVAC and other mechanical components of the house were examined and none of which displayed any evidence of internal failure or malfunction.

Criminal activity: The house was secured with no signs of forced entry prior to the incident. There was no evidence of malicious intent or foul play in the origin and cause of the fire or fire spread.

Smoking materials: Occupants in the house on the day of the incident denied that they smoke, had any smoking materials, or were utilizing any open flames in the house. There was evidence of smoking materials found in the trash containers located at the street level. These smoking materials were determined to be the homeowner's, and were placed in the trash several days prior.

Cooking: There was food prep being done in the kitchen, which included cooking occurring at approximately 1400 hrs, 6 hrs prior to the fire. There was no evidence that this cooking or the cooking appliances were contributing factors to the origin or cause of the fire.

Fireplaces: There were several fireplaces located throughout the structure, none of which were in use prior to or at the time of the incident.

WEATHER:

The weather was between 86° F and 74° F, with .05 inches of precipitation. There is no report of lightning strikes or thunderstorms in the area prior to or at the time of the incident.

UTILITY STATUS:

The utilities were on and operating properly at the time of the incident.

FATALITIES/INJURIES:

1 - Firefighter sustained minor injuries and was transported to local hospital.

TYPE OF EVIDENCE COLLECTED:

4 Items of evidence were taken from the scene by Metropolitan Police Department Detective Todd Gray. These items consisted of three containers of paper towels and one container of latex gloves. All items were delivered to the ATF Lab for testing by Det. Gray.

ADDITIONAL INFORMATION:

Multiple interviews and follow-up interviews were conducted with firefighters initially on the scene, the homeowner, and other people with pertinent information. These interviews have been attached to this report, but the most relevant information is as follows:

██████████ (homeowner)

Was in Martha's Vineyard at the time of the fire and was scheduled to have a fundraising event at the house the night after the fire occurred. ██████ provided information as to the layout and contents of the house, previous renovation and construction work performed, and people who have access and are authorized to be in the house. Denied any knowledge malicious intent or foul play by outside parties.

██████████ (next door neighbor)

States that ██████ arrived home, shortly after eight at night, and heard a crashing noise coming from the direction of the Cafritz home next door. ██████ looked over and saw nothing and went inside to the second floor bedroom of his home. While upstairs, ██████ heard a fire alarm and looked over to the Cafritz home where ██████ saw fire on the side porch. At that point ██████ called 911 and then responded to the front of the Cafritz home. While there ██████ saw fire on the East side of the house and helped to gather the dogs that were on the property.

██████████ (chef)

States ██████ was doing food prep in the kitchen until seven at night when ██████ left the house with the housekeeper. ██████ states ██████ was not using any appliances and nothing seemed unusual while ██████ was in the house. ██████ further states that ██████ took multiple trash bags to the trash canister located at the street, and ██████ did not notice any trash bags left on the East proch.

██████████ (housekeeper)

States ██████ was treating the furniture located on the outdoor porch with linseed oil applied with paper towels. ██████ first treated the furniture at two in the afternoon and additionally treated it a second time at six in the evening. On both occasions, ██████ placed the paper towels that were soaked with linseed oil in trash bags located in the kitchen. One of these trash bags was located in the trash canister at the street and one of them was located in the trash compactor in the kitchen. ██████ denies that there were any trash bags located on the East porch.

██████████ (passerby)

States ██████ was driving down Chain Bridge Rd. with ██████ when they noticed the side porch of the house was on fire. ██████ then stopped ██████ car and called 911. ██████ and ██████ then approached the house and saw fire coming from the East side of the house, from above where the barbeque grill was located. ██████ saw ██████ on the scene and they both retrieved the dogs from the property. ██████ was about to enter the house to search for victims when ██████ heard the windows on the East side of the house breaking out at which time ██████ retreated. ██████ then flagged down an MPD officer and saw the fire department arrive.

██████████ (butler)

States it was normal practice to leave trash bags on the East porch, specifically in the North/East corner of the porch.

██████████ (personal assistant)

States it was normal practice for the staff to leave trash bags on the East porch, specifically in the North/East corner of the porch. ██████ states she has complained to the staff about this problem in the past and the practice has continued.

An Administrative Search Warrant was obtained for the address. As directed by the court, the Warrant was served to the homeowner when it was executed. A completed copy of the Warrant was served to the homeowner at the conclusion of the investigation.

An accelerant detecting K9 sniffed the scene for the presence of ignitable liquids. A search of the rear porch, East porch, dining room, pantry, and other areas around the house all proved negative for the presence of ignitable liquids by a K9 search.

SCENE EXAMINATION CONCLUSION:

All relevant data proves that the fire originated on the East porch, in the North/East corner. The following observations and statements are consistent with this determination:

1. Firefighters initially on scene note fire coming from the B quadrant (South/East corner) of the house and note that there was no fire in the North, West, or upper floor portions of the house upon entry. Additionally, crews encountered no fire in the kitchen immediately in front of the East porch area, but do encounter heavy heat and fire North of the kitchen.
2. ██████ one of the first witnesses of the fire, sees fire coming from the rear of the East side of the porch.
3. ██████ another initial witness of the fire, observes fire coming only from the East porch, and it appears to him that it is coming from the barbeque grill left in that area.

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4. The barbeque grill was discovered with no damage, but originally sat in the area immediately in front of the North/East corner of the East porch. It was reported that the barbeque had not been in use for approximately three weeks prior to the incident.
5. Upon further interviews with both [REDACTED], both witnesses physically pointed to the North/East corner of the East porch when asked specifically where they initially saw the fire.
6. The two columns that surrounded the North/East corner of the porch displayed the heaviest damage to the bottom portions. These columns were also the only columns that displayed this extent of low damage in the area of origin.
7. A visible protected area was discovered in the North/East corner of the porch, the identical area where witnesses first observed fire.
8. This protected area is in the same area that workers report previously leaving trash bags in, prior to them being taken to the trash.
9. Interviews with [REDACTED] (housekeeper) and [REDACTED] (chef), which were two of the people in the house on the day the fire occurred, are inconsistent with placement of the trash bags, the content of these trash bags, and the number of trash bags that were utilized and discarded.
10. Interviews with [REDACTED] are consistent with the fact that [REDACTED] was utilizing Linseed Oil on paper towels to treat outdoor patio furniture. [REDACTED] further states that these towels were discarded in several different plastic trash bags.
11. Interviews with all people familiar with the house state that there was nothing located on the East porch (ie. Furniture, plants, etc.).
12. The following are contributing factors to the rapid and heavy fire spread throughout the house: (1) the number of void spaces and the open air returns that made up the ventilation system of the house (2) the abundance of combustible artwork and decorative finishes on the walls of the house (3) the linseed oil soaked wooden furniture located on the rear porch (4) the positioning of the house on the property shielded the fire from public view until it had consumed a large portion of the East porch

Based on the systematic fire scene examination and the observation of the area of origin and interviews conducted, a hypothesis was developed. There was no evidence to suggest that the fire resulted from electrical, mechanical, or natural heat sources (due to the lack of competent heat ignition sources in the area of origin). The hypothesis evaluated suggests that the fire was accidental in nature and was due to linseed oil soaked paper towels being left in a plastic trash bag in the North/East corner of the East porch. Due to the fact that the existence of this trash bag and its contents (which makes up the point of origin, initial heat source, and first material ignited) could not be proven to an acceptable level of scientific certainty, and that the hypothesis could not withstand a serious challenge, the fire has been classified as **Undetermined**.

This report is based on facts available at the time the report was written. Information made available after completion of the report may change the conclusions, origin and/or cause reported.

